

WHAT IS CLAIMED IS:

1. A method of compressing and recording data of image information on a recording medium,

wherein read/write unit information as a unit of reading and writing the compressed image information to the recording medium contains a plurality of decoding and reproducing unit information comprising one frame (or one field) of the image information; and

wherein at least one piece of the decoding and reproducing unit information is subject to compression encoding through the use of only image information in an associated decoding and reproducing unit,

the method comprising a step of:

multiplexing and recording additional information about the decoding and reproducing unit information for a plurality of units within the read/write unit in the read/write unit information in an extractable manner separately from the compressed image information.

2. The method according to claim 1,

wherein the read/write unit information comprises a plurality of blocks each having the specified amount of data; and

wherein the additional information comprises one or more of the blocks.

3. The method according to claim 2,

wherein the additional information block is multiplexed at a predetermined block position in the read/write unit and is recorded on the recording medium.

4. The method according to claim 2,

wherein the additional information block is multiplexed at a block position immediately before or after a group of blocks including compressed image information processed by compression encoding through the use of only image information in the decoding and reproducing unit and is recorded on the recording medium.

5. The method according to claim 1,

wherein the additional information includes at least information about a time to obtain the image information.

6. The method according to claim 1,

wherein the additional information includes information about a condition of obtaining the image information..

7. A recording apparatus comprising:

a data compression means, in units of decoding and reproducing unit information comprising one frame (or one field) of image information, for performing compression encoding through the use of only image information in the decoding and reproducing unit and for performing compression encoding through the use of correlation with respect to image information based on a decoding and reproducing unit before and/or after image

information based on the decoding and reproducing unit;

an additional information generation means for generating additional information about the image information; and

a recording control means for specifying a plurality of units of the decoding and reproducing unit information compressed by the data compression means to be a read/write unit as a unit of reading and writing to a recording medium, allowing the read/write unit to contain at least one piece of the decoding and reproducing unit information processed by compression encoding through the use of only image information in the decoding and reproducing unit, and multiplexing and recording additional information about the decoding and reproducing unit information for a plurality of units within the read/write unit from the additional information generation means in an extractable manner separately from the compressed image information.

8. The recording apparatus according to claim 7,

wherein the read/write unit information comprises a plurality of blocks each having the specified amount of data; and

wherein the additional information comprises one or more of the blocks.

9. The recording apparatus according to claim 8,

wherein the recording control means multiplexes the additional information block at a predetermined block position in the read/write unit and records the additional information

block on the recording medium.

10. The recording apparatus according to claim 8,

wherein the recording control means multiplexes the additional information block at a block position immediately before or after a group of blocks including compressed image information processed by compression encoding through the use of only image information in the decoding and reproducing unit and records the additional information block on the recording medium.

11. The recording apparatus according to claim 7,

wherein the additional information includes at least information about a time to obtain the image information.

12. The recording apparatus according to claim 7,

wherein the additional information includes information about a condition of obtaining the image information.

13. A recording medium which records image information in a data compression manner, allows read/write unit information as a unit of reading and writing the compressed image information to include a plurality of units of decoding and reproducing unit information comprising one frame (or one field) of the image information, and records at least one piece of the decoding and reproducing unit information processed by compression encoding through the use of only image information in the decoding and

reproducing unit,

wherein additional information about the decoding and reproducing unit information for a plurality of units within the read/write unit is multiplexed and recorded in the read/write unit information in an extractable manner separately from the compressed image information.

14. The recording medium according to claim 13,

wherein the read/write unit information comprises a plurality of blocks each having the specified amount of data; and

wherein the additional information comprises one or more of the blocks.

15. The recording medium according to claim 14,

wherein the additional information block is multiplexed and recorded at a predetermined block position in the read/write unit.

16. The recording medium according to claim 14,

wherein the additional information block is multiplexed and recorded at a block position immediately before or after a group of blocks including compressed image information processed by compression encoding through the use of only image information in the decoding and reproducing unit.

17. The recording medium according to claim 13,

wherein the additional information includes at least information about a time to obtain the image information.

18. The recording medium according to claim 13,

wherein the additional information includes information about a condition of obtaining the image information.

19. A reproducing method for the recording medium according to any of claims 13 through 18, comprising the steps of:

reading compressed image information according to the read/write unit from the recording medium, decompressing the compressed image information, and reproducibly outputting image information according to the decoding and reproducing unit; and

extracting the additional information contained in the read/write unit and reproducibly outputting the additional information in synchronization with reproduction output of the image information according to the decoding and reproducing unit contained in the corresponding read/write unit.

20. A reproducing method for the recording medium according to any of claims 13 through 18, comprising the steps of:

reading compressed image information according to the read/write unit from the recording medium, decompressing the compressed image information, and reproducibly outputting image information according to the decoding and reproducing unit; and

extracting the additional information contained in the read/write unit, reproducing the additional information in

synchronization with reproduction output of the image information according to the decoding and reproducing unit contained in the corresponding read/write unit, and using the reproduced additional information to control image information according to the decoding and reproducing unit contained in the corresponding read/write unit.

21. A reproducing method for the recording medium according to any of claims 13 through 18, comprising the steps of:

reading compressed image information according to the read/write unit from the recording medium, decompressing only encoded image information in the decoding and reproducing unit, wherein the encoded image information belongs to the read and compressed image information and is processed by compression encoding through the use of only image information in the decoding and reproducing unit, and reproducibly outputting the encoded image information in the decoding and reproducing unit repeatedly for the number of decoding and reproducing units fewer than the number of decoding and reproducing units contained in the read/write unit; and

extracting the additional information contained in the read/write unit and reproducibly outputting the additional information in synchronization with reproduction output of the encoded image information in the decoding and reproducing unit.

22. A reproducing apparatus for the recording medium according to any of claims 13 through 18, comprising:

a read means for reading compressed image information according to the read/write unit from the recording medium;

a separation means for separating the compressed image information and the additional information from the read means;

a means for decompressing the compressed image information from the separation means;

a means for reproducibly outputting the decoding and reproducing unit information out of the decompressed image information; and

a means for reproducibly outputting the additional information from the separation means in synchronization with reproduction output of the decoding and reproducing unit information.

23. A reproducing apparatus for the recording medium according to any of claims 13 through 18,

wherein the apparatus reads compressed image information according to the read/write unit from the recording medium, decompresses the compressed image information, and reproducibly outputs image information according to the decoding and reproducing unit; and

wherein the apparatus extracts the additional information contained in the read/write unit, reproduces the additional information in synchronization with reproduction output of the image information according to the decoding and reproducing unit contained in the corresponding read/write unit, and uses the reproduced additional information to control image information

according to the decoding and reproducing unit contained in the corresponding read/write unit.

24. A reproducing apparatus for the recording medium according to any of claims 13 through 18, comprising:

- a read means for reading compressed image information according to the read/write unit from the recording medium;

- a separation means for separating the compressed image information and the additional information from the read means;

- a means for decompressing only encoded image information in the decoding and reproducing unit, wherein the encoded image information belongs to the compressed image information from the separation means and is processed by compression encoding through the use of only image information in the decoding and reproducing unit,

- a means for reproducibly outputting the decompressed encoded image information in the decoding and reproducing unit repeatedly for the number of decoding and reproducing units fewer than the number of decoding and reproducing units contained in the read/write unit; and

- a means for reproducibly outputting the additional information from the separation means in synchronization with reproduction output of the encoded image information in the decoding and reproducing unit.

25. An imaging apparatus comprising:

- an imaging element;

an imaging optical system for forming an object image on the imaging element;

a data compression means, in units of decoding and reproducing unit information comprising one frame (or one field) of the image information from the imaging element, for performing compression encoding through the use of only image information in the decoding and reproducing unit and for performing compression encoding through the use of correlation with respect to image information based on a decoding and reproducing unit before and/or after image information based on the decoding and reproducing unit;

an additional information generation means for generating additional information about the image information from the imaging element; and

a recording control means for specifying a plurality of units of the decoding and reproducing unit information compressed by the data compression means to be a read/write unit as a unit of reading and writing to a recording medium, allowing the read/write unit to contain at least one piece of the decoding and reproducing unit information processed by compression encoding through the use of only image information in the decoding and reproducing unit, and multiplexing and recording additional information about the decoding and reproducing unit information for a plurality of units within the read/write unit from the additional information generation means in an extractable manner separately from the compressed image information.

26. The imaging apparatus according to claim 25,

wherein the read/write unit information comprising a plurality of blocks each having the specified amount of data; and

wherein the additional information comprises one or more of the blocks.

27. The imaging apparatus according to claim 26,

wherein the recording control means multiplexes the additional information block at a predetermined block position in the read/write unit and records the additional information block on the recording medium.

28. The imaging apparatus according to claim 26,

wherein the read/write unit information comprises a plurality of packets; and

wherein the recording control means multiplexes and records the additional information block at a block position of the recording medium immediately before or after a group of blocks including compressed image information processed by compression encoding through the use of only image information in the decoding and reproducing unit.

29. The imaging apparatus according to claim 25,

wherein the additional information contains information about a time of capturing the image information.

30. The imaging apparatus according to claim 25,
wherein the additional information contains information
about a capturing condition of obtaining the image information.